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ABSTRACT

This study investigated the influence of Pidgin versus Standard English on the mnemonic skills of a group of rural Hawaiian school children and compared the recall performance of rural and urban Hawaiian children. An embedded items free recall story task was administered to a group of 30 rural Hawaiian children. Half of the children were tested in Pidgin (Hawaiian Islands Dialect). Analysis revealed no significant dialect related effects. Analysis also revealed that the older children recalled significantly more items than the younger children. The major finding of the present study, however, was the overall recall performance of the rural Hawaiian children. Their performance compared favorably with the performance of a group of urban Hawaiian children as reported in earlier research. (Author/JMB)

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Abstract

An embedded items free recall story task was administered to a group of rural Hawaiian children. Half of the children were tested in Standard English and the remaining half were tested in Pidgin (Hawaiian Islands Dialect). Analysis revealed no significant dialect related effects. Analysis also revealed that the older children recalled significantly more items than the younger children. The major finding of the present study however, was the overall recall performance of the rural Hawaiian children. Their performance compared quite favorably with the performance of a group of urban Hawaiian children as reported in earlier research.

Technical Report # 72

An Embedded Items Investigation of Hawaiian Children's Memory[1]

Tom Ciborowski D. Price-Williams

There are a wide variety of experimental paradigms that are used to developmentally investigate mnemonic processes. A frequently used paradigm is the free recall technique. A common variation of this technique consists essentially of reading the subject a list of words and then asking the subject to recall as many of the words as possible. The subject is free to recall the words in any way the subject chooses, hence the name "free recall" (cf., Cole, Frankel, & Sharp, 1971).

Another variation of the free recall technique is to embed the words to-be-recalled in an interesting, coherent story. After the story is read to the subject particular probe questions are asked to elicit the embedded words. This variation has also been used cross-culturally (cf., Bartlett, 1932; Cole, Gay, Glick, & Sharp, 1971). In the present experiment two stories were read to each subject and in each story there were embedded four words each from two different categories. These same stories were used in testing urban children in Honolulu and hence a major feature of the present experiment is the opportunity to compare the performance of urban schoolchildren and Hawaiian children that live in a remote rural section of Hawaii.

A major variable in the present investigation was the particular dialect used in conducting the experiment. The stories were written in both Standard English and in Pidgin (Hawaiian Islands Dialect). Pidgin is a major dialect of the English language and it shares many of the same features of other Creole

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variants of the English language (Carr, 1972). We adhere to the current linguistic convention of viewing Standard English and Pidgin as merely different dialects of the English language, with no implication that one dialect is linguistically more complex or "sophisticated" that the other. Half of the children in the present study were tested in Pidgin and the remaining half in Standard English.

The motivation for the present experiment was two-fold. First, we sought to investigate the possible influence of different dialects on the mnemonic skills of a group of rural Hawaiian schoolchildren. Second, we sought to compare the performance of rural Hawaiian children to urban children that reside in a large city.

Method

Subjects

A total of thirty children participated in the present study. There were three age groups: 6-7-years-old; 8-10-years-old; and, 11-13-years-old. The children all live in the isolated fishing village of Milolii located on the south Kona coast of the Big Island of Hawaii. The children are predominantly Hawaiian in ancestry and are fully described in earlier technical reports in this series.

Stimuli

The stimuli consisted of two different stories that were written both in Standard English and in Pidgin. Embedded in each story were four words from two different categories. In the first story the categories and words were: Food (cake, poi, tomato, cookie); and Animals (bird, puppy, goldfish, turtle). In the second story the categories and words were: Plants (tree, vegetables, flowers, fruit); and Metals (iron, silver, copper, gold). A complete description of the stories may be found in Ciborowski and Choy (1974).

Design

Each child received each of the two stories twice. Half of the children in each age range received the Standard English version of the two stories, while the remaining half of the children received the Pidgin version. The two different stories were presented in a counterbalanced order. The experiment was conducted in Milolii fishing village. It was conducted informally on the beach, on a lanai, or simply under a tree.

Procedure

The stories were read to each child by a Hawaiian woman who lives in Milolii fishing village. The Hawaiian woman is verbally skilled in both Pidgin and Standard English. Half the children in the present study received the instructions and stories in Pidgin, while the remaining children received the instructions and stories in Standard English. Each child was told that he would be read two stories and that he should listen carfully, because at the end of each story he would be asked questions about the story. At the end of each story the child was asked probe questions to elicit the words embedded in the story.

Results

The primary measure of performance was the number of words recalled for each story. Another measure of performance was the degree of clustering in the recall protocols of the children. This measure of performance was patterned after Dallet (1964). Both measures of performance were submitted to an analysis of variance.

Analysis revealed a significant age effect, $F(2,25) = 9.18$, $p < .01$. A Newman-Keuls test revealed that the 6-7-year-olds recalled fewer words than both the 8-10-year-olds and the 11-13-year-olds, $q(2,34) = 3.91$, $p < .05$ and $q(3,34) = 5.40$, $p < .01$, respectively. There was no difference in performance between the two older age groups.

Analysis revealed no significant effect of dialect upon performance.

Analysis revealed a significant difference in performance for the two stories, $F(3,75) = 18.86$, $p < .01$. A series of Newman-Keuls tests revealed that the difference between the first (5.1 mean words) and second (6.6 mean words) trials of the second story was significant, $q(3,30) = 8.84$, $p < .01$. But the difference in performance between the first (6.0 mean words) and second (6.7 mean words) trials of the first story was not significant. The significant effect obtained for the two stories can be traced to the relatively poor performance on the first trial of the second story.

Analysis failed to show any significant differences in degree of clustering between the various experimental groups.

Discussion

A somewhat surprising finding was the failure to obtain any significant effects attributable to dialect. In Ciborowski and Choy (1974), which used only a subject group of fifth graders from Honolulu, overall recall performance was significantly better when the stories were presented in Standard English than in Pidgin. In the present experiment we anticipated that perhaps this pattern of performance might possibly be reversed. The failure to obtain this anticipated result might possibly be attributable to the stimulus materials.

The embedded words and stories used in the present experiment were the same as those used in Ciborowski and Choy (1974). It is tentatively suggested that some of the embedded words were not as completely familiar to the rural Hawaiian children as their urban counterparts in Honolulu. Using words that were perhaps less familiar, the rural Hawaiian children (who speak predominatly in Pidgin) might find it difficult to encode and recall these words, in either Pidgin or Standard English. Some support for this tentative interpretation may be seen in the relatively poor performance of the rural Hawaiian

children on the first trial of the second story. Of course, their performance significantly improved on the second trial to the point that it matched the level of recall on the first story. Research now in progress using words that are highly familiar to rural Hawaiian children may clarify interpretation of the findings of the present experiment.

The major finding of the present study however, is the overall recall performance (6.1 mean words) of the rural Hawaiian children. This performance compares quite favorably with the overall performance (6.7 mean words) of the urban children in Honolulu. This is despite the fact that some educators in Hawaii consider the education received by children in rural remote areas of Hawaii to be somewhat less thorough than the education received in urban Honolulu. Several measures of school related skills are taken as support for this point of view. For example, a number of standardized tests of reading skill indicate that rural children generally score lower than children in Honolulu. Despite these differences however, our results indicate a favorable degree of comparability between rural Hawaiian children and children in urban Honolulu.

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